CLARK COUNTY ENGINEER

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Rigid Pipe Requirements

1) SPECIFICATION REFERENCE: The current standard State of Ohio Department of Highways Construction and Material Specifications shall govern all materials and construction for the work covered by this permit except as may be modified on the plans.

2) GENERAL LOCATION: Longitudinal utility pipelines may be permitted within the County road right-of-ways only when it can be demonstrated that no other feasible location exists.

   a) Longitudinal installations within the right-of-way limits shall be located between the ditch and the right-of-way line. If this location is not feasible the line may be located between the ditch and the near edge of the pavement, providing that the trenching and backfilling shall be performed as herein specified for such installations.
   b) Where a utility pipe line crosses the highway, it shall be installed on a line at right angles to the center line thereof at the depth and in the manner herein specified unless special permission to the contrary is included in Special Provisions attached hereto. The horizontal and vertical alignment of a pipeline shall not limit the use and effectiveness of the roadway within the short range or long range of the County highway program. The horizontal alignment for pipe installed longitudinally along the highway shall be constructed on a line as nearly parallel to the centerline of the highway as possible.

3) DEPTH: Grade of the crown of an unprotected pipe or of the crown of a casing less than 18 inches in diameter shall be established such that a minimum depth of cover will be as follows:

	Water Lines	Others
Under pavement surfaces	48 inches	36 inches
Under other surfaces, including sod ditches	48 inches	36 inches

4) LONGITUDINAL TRENCHING:
   a) The distance from the edge of the pavement to the near edge of a longitudinal trench shall be equal to or greater than the depth of the trench. If the distance from the edge of the pavement to the edge of the trench is less than the depth of the trench, the trench shall be sheeted, shored and/or braced in such a manner as to prevent caving, loss, or settlement of the foundation material supporting the pavement.

b) Trenching nearer than five (5) feet from either edge of the surfaced portion of the roadway will not be permitted except when special permission is obtained and included in Special Provisions attached hereto. No trench shall be excavated; the top width of which exceeds eighteen (18) inches more than the outside diameter of the pipe to be installed. Excavated materials shall not be stockpiled upon the pavement.
c) Longitudinal lines shall be installed under driveways and intersecting streets and highways in the same manner as specified herein for crossing existing highways.

5) PIPE LINES CROSSING HIGHWAYS:
a) Pipe lines carrying liquids under pressure having an inside diameter of two (2) inches or less shall be installed in casings except when constructed of Type K soft temper seamless copper tubing meeting the requirements of ASTM B 88 and of a length sufficient to extend under the pavement without a joint to a minimum distance of three (3) feet beyond each pavement edge. Pipe or casing shall be installed by driving or jacking without disturbing the pavement. Casing shall not be larger than three (3) inches. Internal diameter
b) Pipe lines carrying liquids under pressure and having an inside diameter of more than two (2) inches shall be installed in casings unless otherwise herein provided by special permission and included in Special Provisions attached hereto.
c) Pipe lines carrying gas under pressure shall be installed in casings, if the gas pipe exceeds two (2) inches in diameter or carries a pressure of five (5) psi or more. Casings, where required, shall be driven or jacked into position without disturbing the pavement. Unprotected lines shall be driven or jacked into position without disturbing the pavement.
d) Gravity-flow pipelines, such as sanitary sewers, may be installed in tunnels under paved roads or may be installed in open cut. Both methods require a special permit. Pipe shall be of a type suitable for roadway culverts. Joints shall be compression type or an approved equivalent.
e) Edge of jacking or driving pits shall be a minimum of five (5) feet from edge of pavement.
f) Casings designed to contain pipes which will be pulled in long lengths shall be of smooth bore design so that couplings of the utility pipe line will not catch while being pulled.

6) BACKFILLING:
a) Longitudinal trenches and openings, except across driveways and intersecting streets or highways, between the line that is four (4) feet from and parallel to the near edge of the paved or graveled portion of the highway and the right-of-way line may be backfilled with suitable excavated material, compacted sufficiently to avoid excessive settlement. All work shall be done in a workmanlike manner and the ground left in a neat condition. Excess excavated material shall be removed from the right-of-way and disposed of.

b) Excavated material from the trench across unpaved driveways and intersecting streets and highways shall be removed and disposed of and the trench backfilled in accordance with the provisions of State Highway Construction and Material Specifications ITEM 603.08 (Type A or Type B conduit) full depth and full roadway width (out to out of berms) with an approved granular material meeting

the requirements of ITEM 310, except the top twelve (12) inches within the limits of the roadbed which shall be backfilled with crushed aggregate, ITEM 304, and the surface of the roadbed shall be replaced in kind.

c) If permission is granted to trench across a paved street, highway or driveway, in lieu of jacking, boring or tunneling, the excavated material shall be removed and disposed of and the trench backfilled in accordance with the provisions of the State Highway Construction and Material Specifications ITEM 603.08 (Type A or Type B conduit) full depth and full roadway width (out to out of berm) with an approved granular material meeting the requirements of ITEM 310, except the top twelve (12) inches which shall be backfilled with crushed aggregate ITEM 304. If the existing pavement is blacktop of any type, then twelve (12) inches of crushed aggregate shall extend to within three (3) inches of the surface of the existing pavement, of which three (3) inches shall be Asphalt Concrete, ITEM 404. If the existing pavement is Portland Cement Concrete the trench shall be backfilled with approved granular material, ITEM 310, to eight (8) inches below the surface of the existing pavement, which eight (8) inches shall be Portland Cement Concrete, ITEM 499, Class C.

7) APPURTENANCES: When manholes, valve boxes etc. are placed in the berm of the highway, they shall be located at such elevation that the berm can be maintained over the top of the same. Fire hydrants, pedestals etc. extending above the surface of the ground, shall be located between the road ditch and the right-of-way line. Pipelines of any type carrying gas or liquid under pressure shall be equipped with two valves in the vicinity of the highway, which when closed will isolate a section of line including the portion within the highway right-of-way.

8) SEEDING: All disturbed vegetation is to be seeded and mulched as specified in ITEM 659 Seeding and Mulching.

9) OTHE POLICY: For policy on design and construction of rigid utility pipe lines not covered by these provisions, the Clark County Engineer's current policy shall govern.

10) “AS BUILT" DRAWINGS: If requested, a set of "as built" drawings shall be furnished to the Office of the Engineer upon completion of the work. The drawings should show by stationing and tie measurement the exact location of all rigid utility pipelines, valves, hydrants, service connections etc. built by the Permittee under this permit.